Claims

1. Anchoring system to hold a vessel anchored during loading or unloading, which vessel can be connected or disconnected from the anchoring system in a similar way under all operating conditions without adjustments in the anchoring system, which anchoring system is comprising

one or more anchors, from each anchor an

anchoring line is arranged, extending upwards through the sea to

a subsea buoy with swivel, which buoy has connected thereto and holds the anchor lines and at least one pipeline for loading or unloading upwards through the sea, from which subsea buoy at least one line is arranged to

a surface buoy, and further,

at least one anchoring line and at least one pipeline for loading or unloading, arranged to the vessel either directly from the subsea buoy or via the surface buoy to the vessel,

characterized in that

in each anchor line slack is arranged, and on one or more anchor lines

one or more clump weights are arranged, and

the buoyancy of the subsea buoy and the buoyancy of the surface buoy is adapted such that by damage on the surface buoy or the line therefrom to the subsea buoy the subsea buoy and thereto suspended equipment will not be lowered further down vertically than that one or more of the clump weights are landing on the seabed, while during loading or unloading will at least one of the clump weights on each anchor line be located on or just above the seabed, and

for all types of load in the loading or unloading pipelines and with all anchor lines connected, the subsea buoy can by ballast adjustment be brought up to the surface.

2. Anchoring system according to claim 1,
characterized in that it is comprising six anchors with anchor line from each anchor up to the subsea buoy, arranged as spread anchoring, with two clump weights on at least four of the anchor lines, such that during all loading or unloading will, for each anchor line with clump weights, one clump weight lie on the seabed while one clump weight is raised a short distance above the seabed.

3. Anchoring system according to claim 1 or 2,
characterized in that the loading/unloading pipelines and the anchor lines are arranged from the subsea buoy to the surface buoy and therefrom to the vessel.

4. Anchoring system according to anyone of the preceding claims, characterized in that the location of the subsea buoy between the lowest position and highest normal position while loading or unloading, vertically is within about 5 meters.

5. Anchoring system according to anyone of the preceding claims, characterized in that the subsea buoy is ballastable by bringing in/out air or water, controlled from the surface via a cable or acoustic signals from the surface buoy.

6. Anchoring system according to anyone of the preceding claims, characterized in that the surface buoy is ballastable by bringing in/out air or water.

7. Anchoring system according to anyone of the preceding claims, characterized in that the subsea buoy is located deeper than the largest draught for vessels that are to use the anchoring system.

8. Anchoring system according to anyone of the preceding claims, characterized in that the maximum allowable variation in buoyancy for loading/unloading pipelines is at least about 200000 kg.